REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1. REPORT DATE *(DD-MM-YYYY)*	2. REPORT TYPE	3. DATES COVERED *(From - To)*
22-07-2003	Technical Viewgraph Presentation	

4. TITLE AND SUBTITLE

Pre-Proposal Conference Briefing

5a. CONTRACT NUMBER

5b. GRANT NUMBER

5c. PROGRAM ELEMENT NUMBER

6. AUTHOR(S)

1Lt Daniel Wright

5d. PROJECT NUMBER
5026

5e. TASK NUMBER
03BY

5f. WORK UNIT NUMBER

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)

Air Force Research Laboratory (AFMC)
AFRL/PRSE
4 Draco Drive
Edwards AFB CA 93524-7160

8. PERFORMING ORGANIZATION REPORT NUMBER

AFRL-PR-ED-VG-2003-197

9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)

Air Force Research Laboratory (AFMC)
AFRL/PRS
5 Pollux Drive
Edwards AFB CA 93524-7048

10. SPONSOR/MONITOR'S ACRONYM(S)

11. SPONSOR/MONITOR'S NUMBER(S)
AFRL-PR-ED-VG-2003-197

12. DISTRIBUTION / AVAILABILITY STATEMENT

Approved for public release; distribution unlimited.

13. SUPPLEMENTARY NOTES

For presentation on the PRSA Internet Website.

14. ABSTRACT

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
					Leilani Richardson
a. REPORT	b. ABSTRACT	c. THIS PAGE	A	72	19b. TELEPHONE NUMBER *(include area code)*
Unclassified	**Unclassified**	**Unclassified**			(661) 275-5015

Upper Stage Engine Technology (USET) Effort

Pre-Proposal Conference

17 Jul 03

1Lt Daniel Wright

Upper-Stage Program Manager

Propulsion Directorate

Edwards AFB

Air Force Research Laboratory

Welcome

- **Safety**
- **Snacks**
- **Restrooms**
- **Objective**
  - To clarify requirements in the PRDA
  - To facilitate better proposal submissions
- **Key Personnel**

– Contracting Officer	**Barbara Barcelona**	**(661-277-3524)**
– Contract Negotiator	**Patricia Roberts**	**(661-277-9569)**
– Program Manager	**1Lt Daniel Wright**	**(661-275-5583)**

Agenda

- 0730-0800 Coffee
- 0800-0810 Welcome
- 0810-0840 Summary of changes from Draft to Final
- 0840-0910 PRDA Modifications
- 0910-0925 Break
- 0925-0955 Miscellaneous Information
- 0955-1005 Proposal Timeline
- 1005-1035 Statement of Work Guidance (J Shelley)
- 1035-1050 Break
- 1050-1115 TMATT Review (Carl Ousley)
- 1115-1140 Basis of Estimate Guidance
- 1140-1200 Oral Presentation Guidance
- 1200-1300 Lunch
- 1300-1345 Individual Company Q/A Session 1 (Rm 130) - Aerojet
- 1345-1430 Individual Company Q/A Session 2 (Rm 130) - Rocketdyne
- 1430-1515 Individual Company Q/A Session 3 (Rm 130) - Northrop Grumman
- 1515-1600 Individual Company Q/A Session 4 (Rm 130) - Pratt and Whitney

Summary of Changes

- Preface
  - Number of proposal copies changed
    - 1 original and 1 copy to Contracting POCs
    - 10 copies to Technical POC
    - 1 CD-ROM with oral presentation slides to Technical POC
    - Team copies of oral presentation to Technical POC
  - PowerPoint-2002 format
- Section A
  - Deleted reference to business practice tools
  - Commercially available tools and/or proprietary tools
  - Management tasks in basic effort and each option
  - Two display models
  - Testing provided at Test Stand 2A

Summary of Changes (Cont'd)

- Section A (Cont'd)
  - TMATT participation
    - 2 five day training workshops (Both during basic effort)
    - 3 one day facilitated meetings
    - 3 one day project meetings
    - All one day meetings to be held in conjunction with other project meetings
  - Propose to entire topic description
  - CDRL list changes
  - Software and display models added to deliverables (Data Rights described in DFARS Subpart 227.72)

Summary of Changes (Cont'd)

- Section D
  - Criterion 1 – Understanding of the problem
    - Scope of the effort
    - Assessment of risks
    - Current capabilities
    - Capabilities necessary for future

Summary of Changes (Cont'd)

- Section D (Cont'd)
  - Criterion 2 – Sound technical approach
    - Approach to supplement capabilities
    - Integration of concurrent engineering
    - Logical processes for design and fabrication
    - Risk reduction activities
    - Statement of Work
    - Relevance to IHPRPT

Summary of Changes (Cont'd)

- Section D (Cont'd)
  - Criterion 3 – Strong transition strategy
    - Leveraging current capabilities
    - Maintenance of tools
    - Perceived benefit
    - Efficacy of teaming arrangements
    - Applicability of tools beyond closed expander cycle

Summary of Changes (Cont'd)

- Section D (Cont'd)
  - Criterion 4 – Sound project management approach
    - Identification of resources and key personnel
    - Commitment to program stability
    - Strong engineering lead
    - Documented schedule
    - Relevant past/present performance

PRDA Modifications

- CDRLs
  - Technical and Management Work Plan
  - Contractors Progress, Status & Mgmt Report
  - Contract Funds Status Report (CFSR)
  - Cost/Schedule Status Report (CSSR)
  - Presentation Material
  - Test Plan – Software
  - Test Plan – Hardware
  - Magnetic Tape Cartridges, Video Data, and Voice Records
  - Scientific & Technical Report – Final Report

PRDA Modifications (Cont'd)

- CLIN Structure (WBS and SOW should follow this structure)
  - 0001 Technical Effort
  - 000101 Funding Info Only
  - 0002 CDRL Items A001 to A008
  - 0003 CDRL Item B001
  - 0004 Option for Tool/Method Development

PRDA Modifications (Cont'd)

- CLIN Structure (Cont'd)
  - 0005 Option for Turbopump Conceptual Design
  - 0005AA Option for Turbopump Conceptual Design
  - 0005AB Option for Display Model
  - 0006 Option for Turbopump Preliminary Design
  - 0007 Option for Turbopump Critical Design
  - 0008 Option for Turbopump Tool Validation

PRDA Modifications (Cont'd)

- CLIN Structure (Cont'd)
  - 0009 Option for Combustion Chamber Conceptual Design
  - 0009AA Option for Combustion Chamber Conceptual Design
  - 0009AB Option for Display Model
  - 0010 Option for Combustion Chamber Preliminary Design
  - 0011 Option for Combustion Chamber Critical Design
  - 0012 Option for Combustion Chamber Tool Validation

PRDA Modifications (Cont'd)

- CLIN Structure (Cont'd)
  - 0013 Option for Software Deliverable
  - 0014 Option for Residual Hardware Deliverable

- DD2345 will be required for submittal with proposal

Miscellaneous Information

- Section A
  - Concurrent Engineering – A systematic approach to the integrated, concurrent design of products and their related processes, including manufacture and support. Intended to cause developers, from the beginning, to consider all elements of the system life cycle from requirements development through disposal, including cost, schedule, and performance.
  - This is not a materials development program
  - MRL and PRL of 5 required for materials
  - TRL should start at 3 or 4 and reach 5 by completion

Miscellaneous Information (Cont'd)

- Section A (Cont'd)
  - Methodology for cost goals described in Q&A sheet from Industry Day
  - The tool/method development option includes tools and methods for both components
  - "Operation simulation" (PRDA Section A paragraph 1.j. and k. and l.) may included transient, steady state, and restart models
  - The Government will provide Test Stand 2A (AFRL, Edwards AFB), test stand support (including data acquisition), and propellants. Instrumentation shall be provided by the contractor.

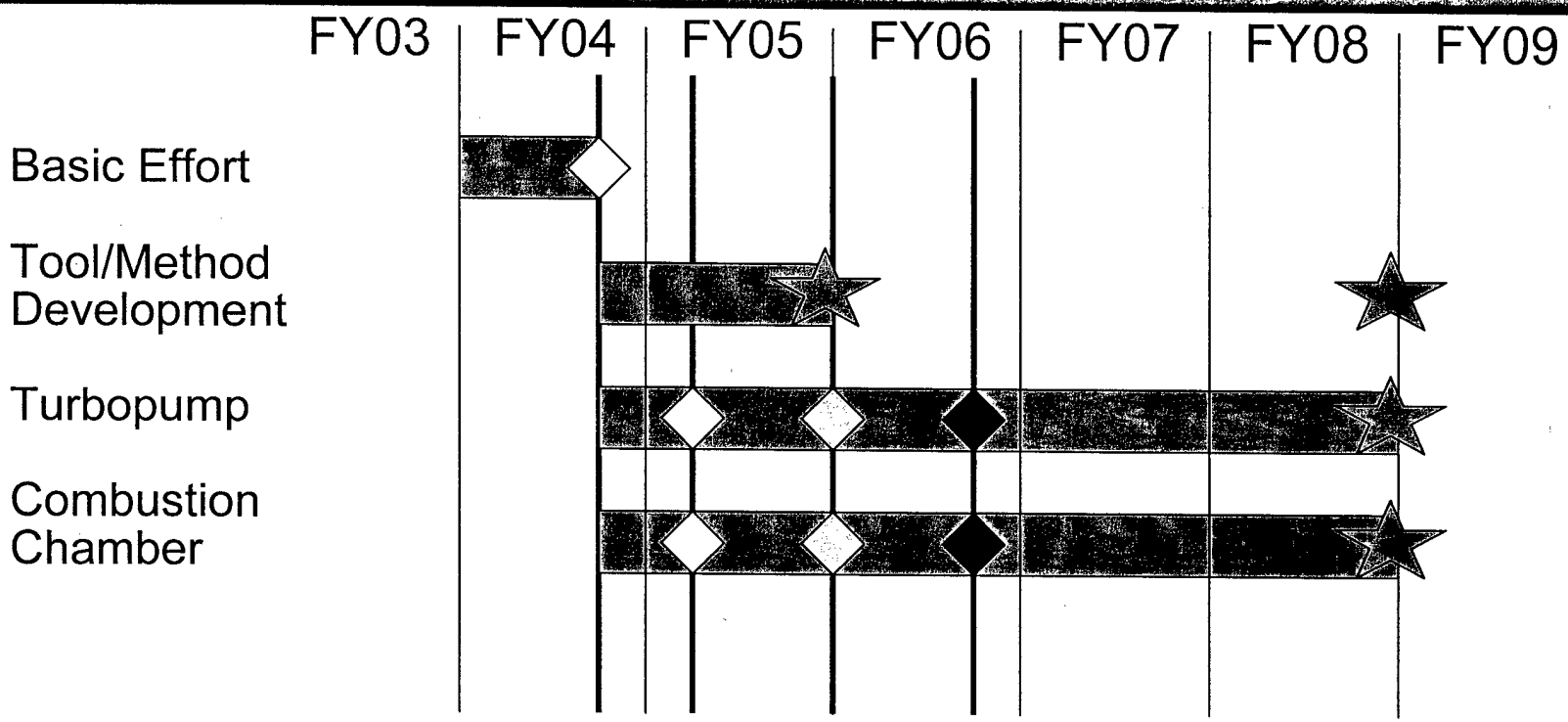
Miscellaneous Information (Cont'd)

- Section A (Cont'd)
  - Contractor proposed options may be proposed for any time during the contract and may exceed the funding profile
  - Offerors should fit the funding profile by modifying the basic and option periods of performance - Still must complete the entire technical effort by the end of FY08
  - In the event of a continuing resolution this effort may still receive full funding

Miscellaneous Information (Cont'd)

- Section A (Cont'd)
  - Funding profile is for two contracts - Two contracts include two basic efforts, two tool/method development options, one of each component design options, one of each tool validation options
  - The funding split on the two components may not be 50/50
  - The only TMATT involvement during the proposal is to plan for the meetings
  - Propose TMATT as a part of project management tasks

Miscellaneous Information (Cont'd)



◇ Conceptual Design Review

◇ Preliminary Design Review

◆ Critical Design Review

Technology Ready

Current Effort

Exercise Options

Miscellaneous Information (Cont'd)

- Section B
  - Oral presentations are scheduled to begin 26 Aug 03
  - Plan on a contract start date of 1 Nov 03
- Section C
  - WBS levels are defined as: Level 1 – Project, Level 2 – Tasks (Basic effort and options), Level 3 – Subtasks
  - Contractor proposed GFP must be accompanied by approval letters. Only include GFP anticipated for this effort not all the GFP available. (PRDA Section C paragraph 2.c.(1))

Miscellaneous Information (Cont'd)

- Section C (Cont'd)
  - No official limit on number of people to attend oral presentation. Be reasonable. Bring the right people to answer questions on all aspects of the proposal.
  - Management reserve may not be bid as a separate cost item
  - Individual subcontracting plans for basic effort and each option (PRDA Section C paragraph 3.d.)
- Section D
  - Teaming or the lack of teaming in and of itself will not be an evaluation criteria

Miscellaneous Information (Cont'd)

- Section D (Cont'd)
  - Technical risks and program risks included in "risks involved"
  - IHPRPT relevance should be presented with GOTCHA process
- Section E
  - Non-disclosure agreements with non-government advisors are an option to the offeror and the responsibility of the offeror

Proposal Timeline

Activity	Date
Announcement	30 Jun 03
Pre-Proposal Conference	17 Jul 03
Proposals Due	14 Aug 03
Oral Presentations Begin	26 Aug 03
Expected Award Date	31 Oct 03

Statement of Work Guidance

SOW

Hints and tricks for creating a manageable Statement of Work

Why you are here

- You will be judged on the content of your SOW
- We are asking for something different than we have ever asked for before
- Contractors have had trouble with SOWs

- We buy SOW, not the end item.
  - Your effort and the documentation of your effort
  - A description of the process you will go through in executing your approach
  - The document that effort must be managed to
  - Establishes the expectation on which you will be judged throughout the effort

Requirements from PRDA

- Seemingly contradictory or unclear requirement

- What is “clear and reasonable”
- Clear, definitive, and thorough while also being flexible and accounts for the uncertainties of research.
- How do we write this without proprietary

What is SOW

- Legally: Description of work legally obligated to be preformed by the contract
  - defines expectations
- Technically: Ordered, systematic, description of effort required to achieve objective
- Programmatically: Benchmark against which progress is measured, definition of work for the BOE

- SOW parts
  - Objective
  - Scope
  - Applicable documents
  - Task description

Objective

- Definition of desired end state
- Concise statement of what the effort is intended to do

- Documents motivation
- Establishes direction

- Generally brief, 1 - 8 sentences
  - Can be bulletized or sentences
  - Does not need to re-iterate IHPRPT Goals
  - Summarize the purpose and desired accomplishments of the project

Scope

- Delineation of the boundaries of the effort
  - By method, by hardware type, etc.
- Establishes limits to the contracted effort
  - Used to determine whether a desired modification is "in scope"
- Brief, 1 – 5 sentences or bullets
  - Clear, definitive, precise
  - Flexible, able to accommodate change
  - Not too specific or detailed

Applicable Documents

- Standards and specifications that are to be included in the contractual requirements by reference.
  - Not bibliography
- Used to specify requirements by reference
- Usually a bullet list

Task Descriptions

- Ordered, systematic, description of effort required to achieve objective
- The approach broken down into realistic, doable, and verifiable units of work
- Plan of action
- Description of actions and processes rather than hardware or things

- Establishes expectations for accomplishments
- Defines the tasks to be managed to

- Generally long series of numbered paragraphs

Task Description Description

- Concise
- Descriptive
- Flexible
- Recursive, if necessary
- Non-proprietary, public release
- Specific
- Allows for learning
- Not necessarily linear sequential

Template for Task Paragraphs

- Five Questions
  - What are you going to do?
    - Purpose statement
  - How will it be accomplished? (generally)
    - using what tools or procedures?
    - ex: lit search, computational analysis, trade studies, simulation, brainstorming, systems engineering approach, test, procure from vendors, scientific investigation, etc.
  - How will you know it is done?
    - what is the measure of goodness?
    - based on what criteria?
  - How does this fit with other tasks?
    - Schedule and interactions
  - Do any actions result?
    - CDRLs, references, government actions, decision gates

Tricks of the Trade

- Use other sections of the proposal to describe proprietary concepts
  - Say "by proprietary process", if necessary; or use a previously defined euphemism to describe a proprietary item;
  - Use a referenced CDRL item to describe the proprietary outside of the SOW;
  - Leave it out, if it is unnecessary detail.
- Don't specify vendors, processes, test facilities, etc. unless absolutely necessary
  - Things that might change, things not under your control
  - Work with partners to protect their IP while clearly defining their tasks
- Use planning tasks and recursion to build in flexibility
  - Lack specificity; requires time, effort, and government action
- Ask for government approval on CDRLs that require a choice, government input, decision gate, or milestone
  - Takes time, requires government action
- Document assumptions that effect cost for the BOE

- Separate programmatic monthly status reports from technical interim reports that document task results and analysis details (marked retireable), use separate volumes, if necessary.

Questions?

When in doubt, ask yourself:
"If a new contract manager were to take over tomorrow,
would that manager know what was going on based on this document
and what to do about it?"

TMATT Review

TMATT

(Transformation Management for Accelerated Technology Transition)

Contribution to the

Upper Stage Engine Technology (USET) Effort

17 July 2003

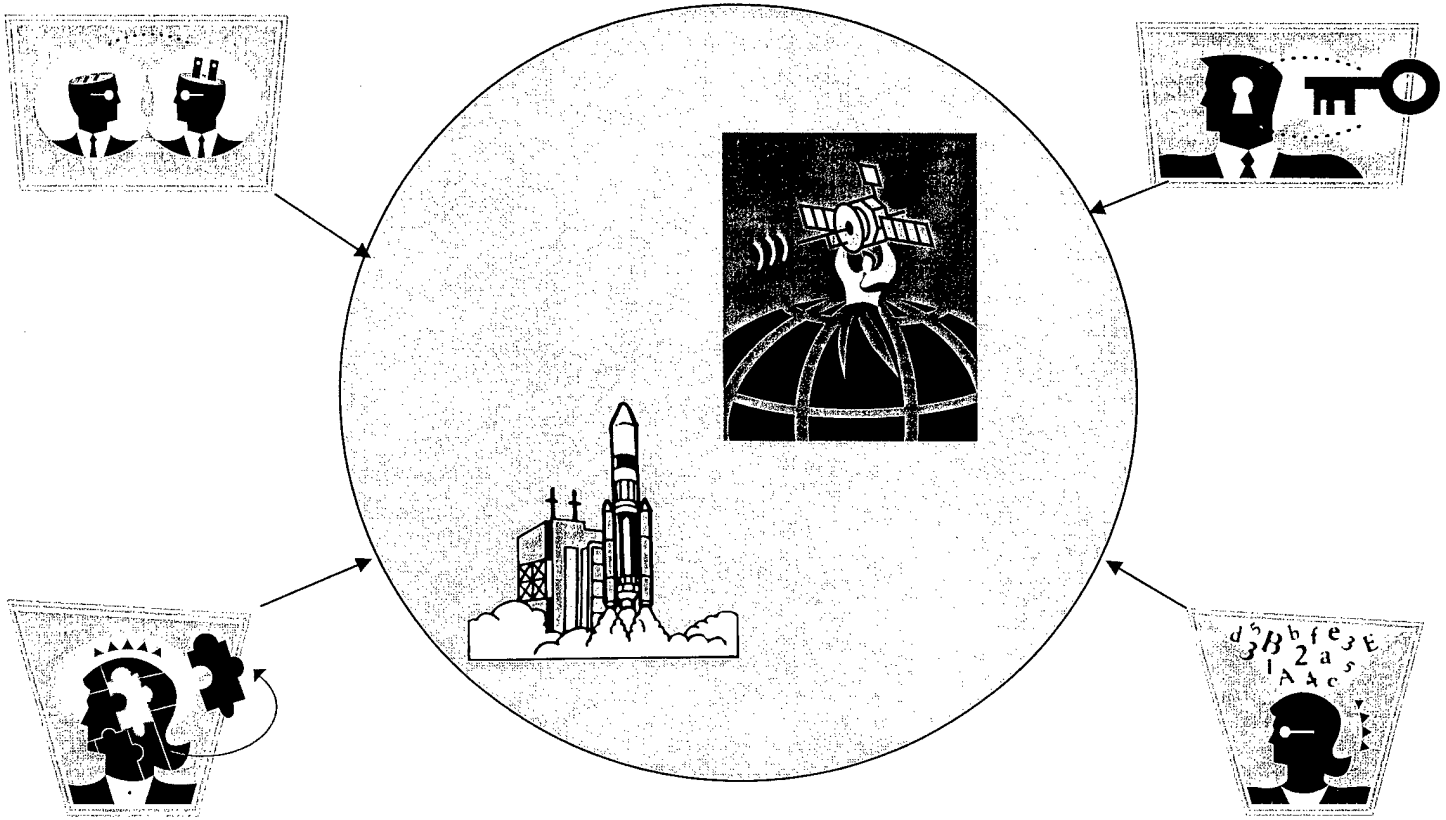
Carl E. Ousley Jr.
Propulsion Directorate
Air Force Research Laboratory
(661) 275-6346; carl.ousley@edwards.af.mil

TMATT is Evolving

- Although TMATT is being replaced by a new, wider initiative "Systems Engineering", the TMATT principles will still apply.
  - AFRL/AE office created a Technology Transition Council that consists of 2 Sub Panels:
    - Technology Transition &
    - Systems Engineering Panel

Lets continue to perform RDT&E business in a smart, effectual and profitable way, but better.

What is TMATT to Me?



A quantifiable program management approach with tools that are based on systems engineering principles.

Benefits of TMATT[1]

- Dramatically improve technology affordability
- Provide the **BEST VALUE** to our customers
- Achieve a higher technology transition success rate
- Satisfies the intent of 5000.2, Part 1.1

*"Every acquisition program shall establish program **goals – thresholds and objectives** – for the minimum number of cost, schedule, and performance parameters that describe the program over its life cycle."*

TMATT nets you the Best Value Product

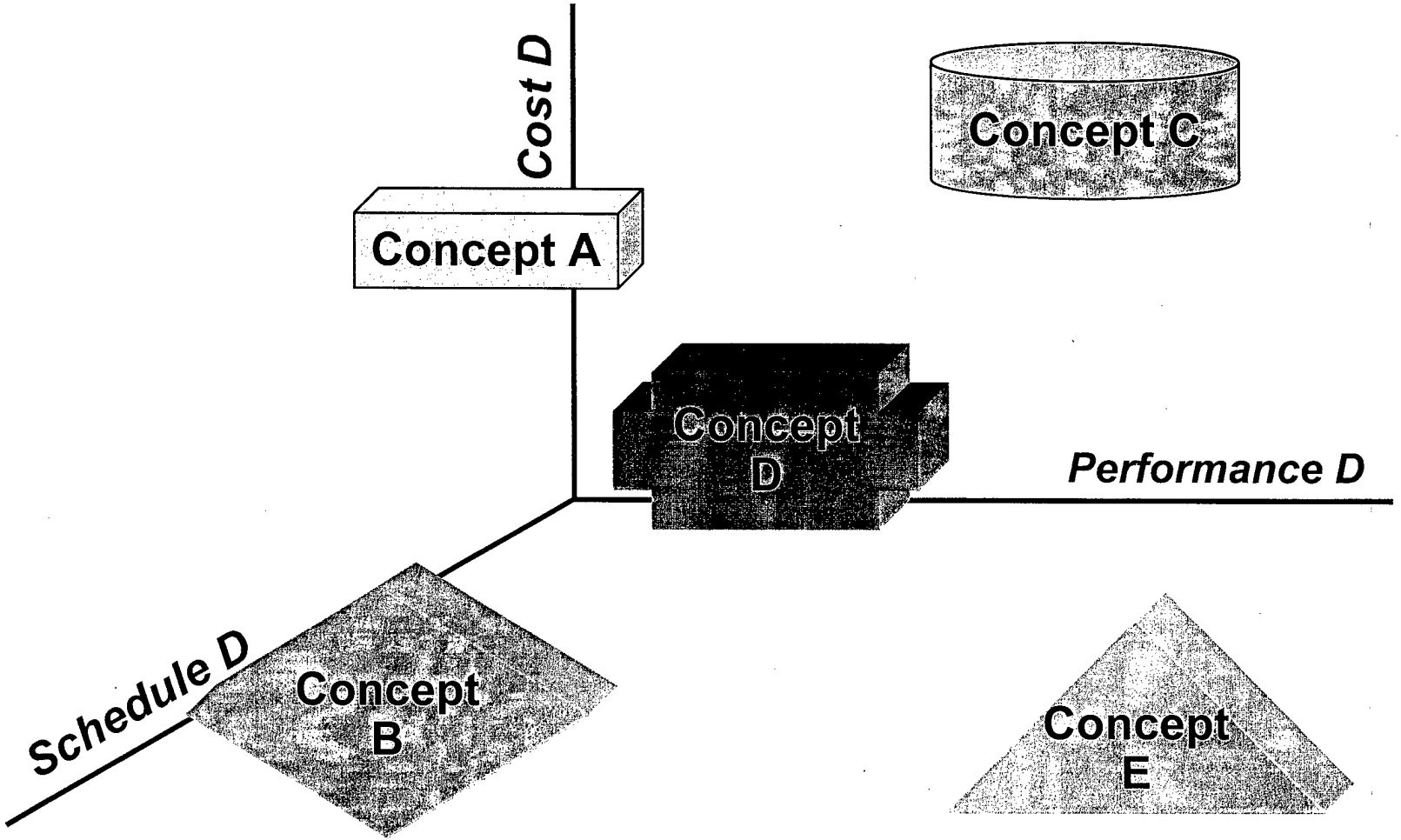
1. BG Nielsen Affordability Policy letter, dated 08 May 2000

What is Affordability?

- Affordability gets you the **Best Value** among available alternatives.
  - Its perceived value (performance vs. price) is such that customers can and will buy it or invest in it.
    - Meets the customer's needs by addressing the **balance** of performance and life cycle cost during technology development.
  - Affordability facilitates the transition of those Best Value technologies

Affordability = Best Value, not Lowest Cost

Desirability Trade Space*



* *From the Perspective of Customer #1:*

The Iterative TMATT Approach

(Integrated Product & Process Development)

1. **Identify Customer Requirements**
   - *For whom are we doing what?*

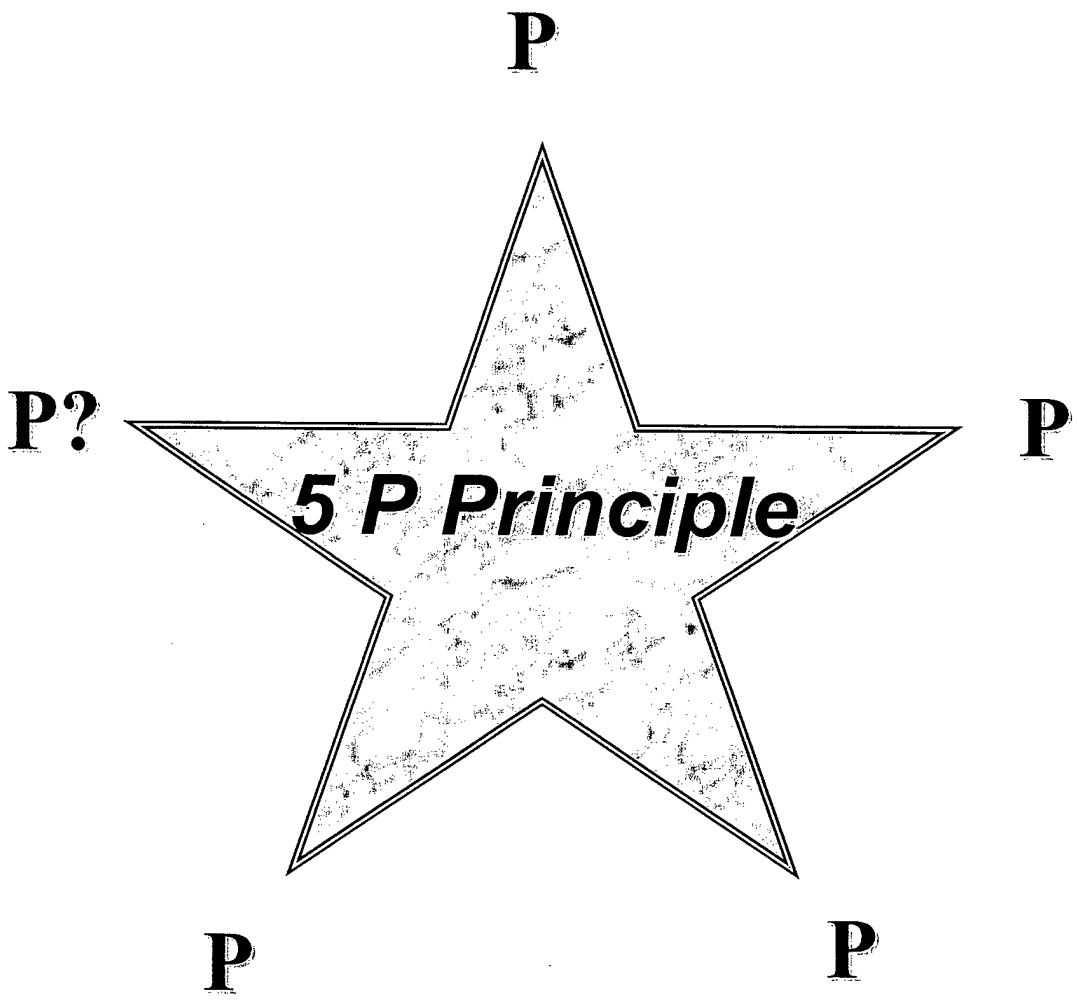
2. **Identify/Explore/Refine Technology Alternatives**
   - *Establish exit criteria (how will we know when we've got it – demonstrate that we met the requirement(s)?)*
   - *What are the technology options?*

3. **Perform Value Analysis**
   - *Which is the best approach?*
   - *What are the risks to developing the selected technology?*

4. **Develop & Demonstrate Alternative(s) or Technologies.**
   - *How will you structure your program to meet the requirements & manage risk?*

5. **Transition Ready Technology**
   - *What is your business-based transition plan that meets customer approval?*

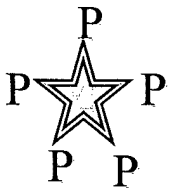
TMATT is Transition Focused



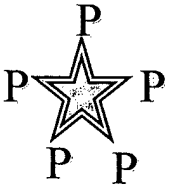
- 5P Principle: Prior Planning Prevents Poor Performance -

Adequately Answer The 6 TMATT-type Questions

- Who are your customers & what are their requirements?
- How will you demonstrate you have met the requirements?
- What are the technology options & which is the best approach?
- What are the risks to developing the selected technology?
- How will you structure your program to meet requirements and mitigate risk?
- What is your business-based transition plan that meets customer approval?



Know your Plan ⇗ Success



Putting it Together

(Combining Desirability & Risk)

Easy, flexible, web-enabled, measurement-driven, state-of-the-art decision management tool

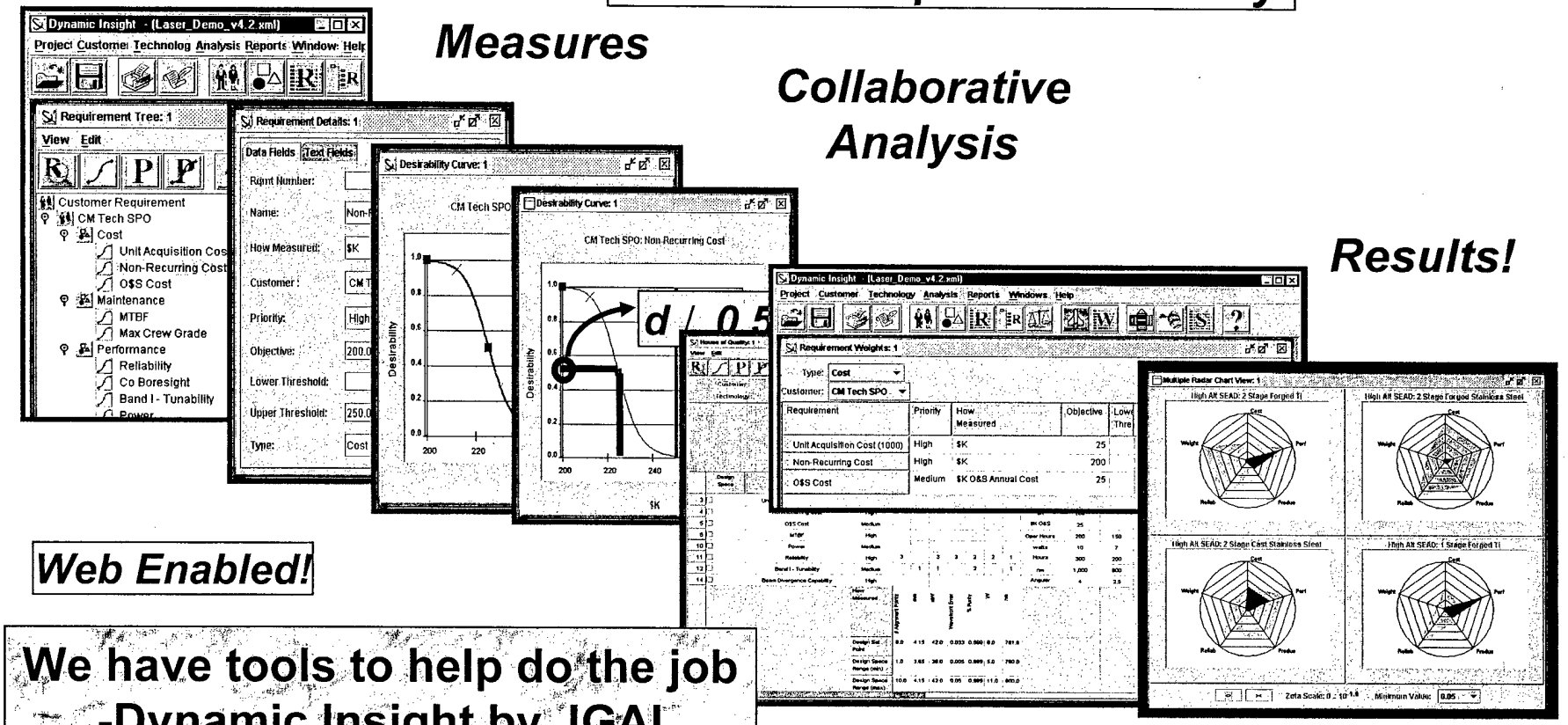
Requirements

Process Discipline Made Easy!

Measures

Collaborative Analysis

Results!



Web Enabled!

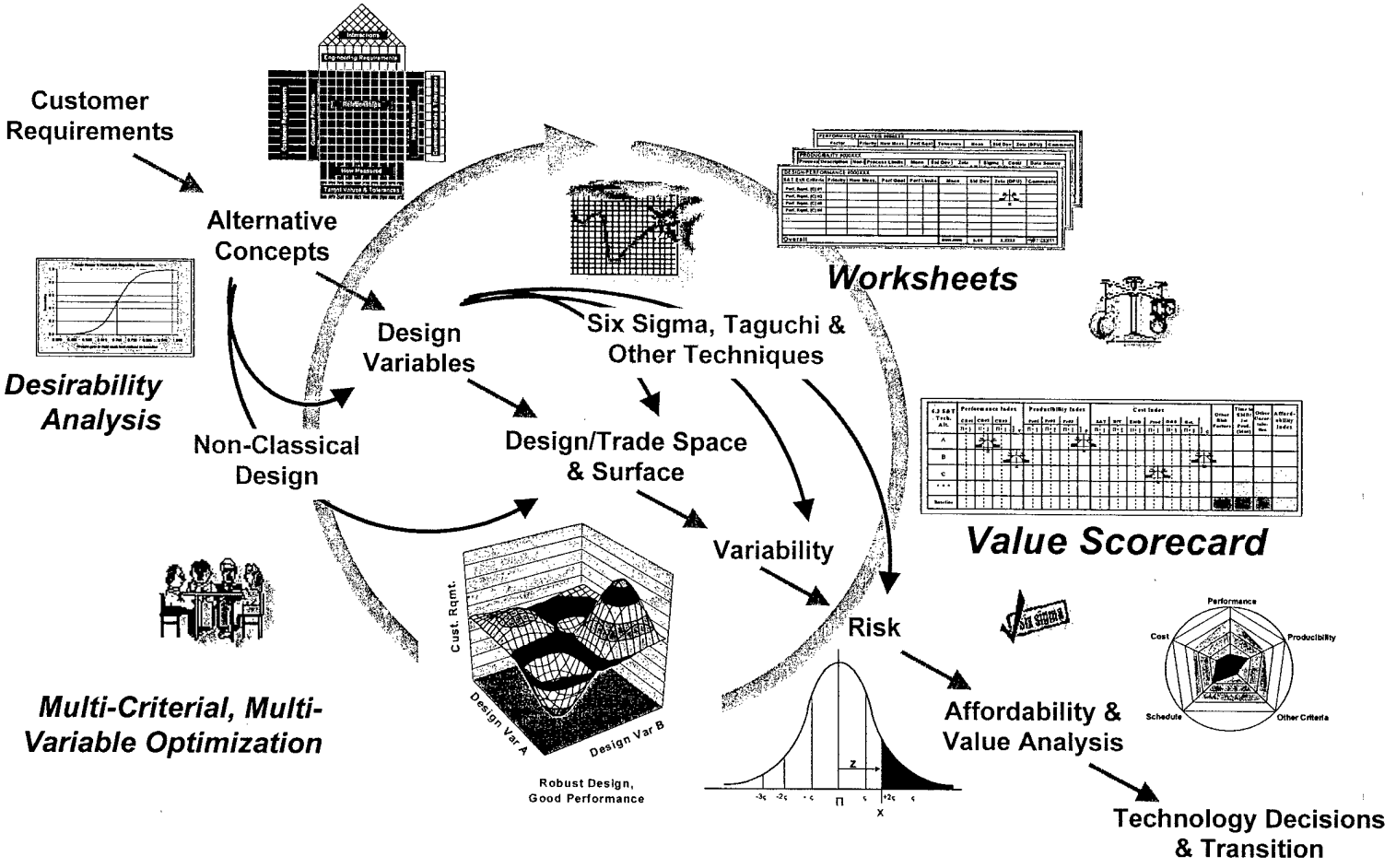
We have tools to help do the job

-Dynamic Insight by JGAI

www.jgai.com

The TMATT (Systems Engineering) Tools

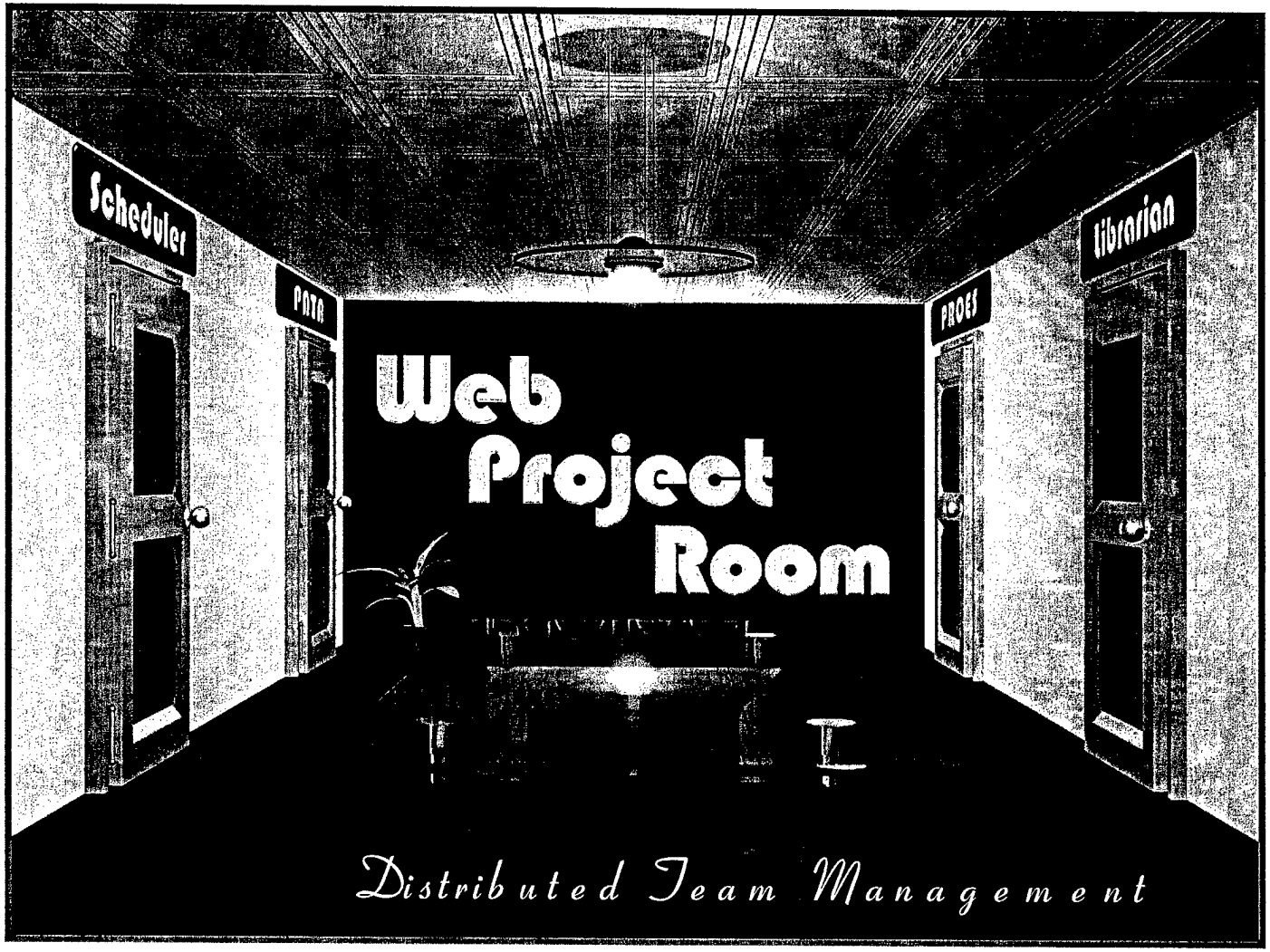
User-friendly tools:



Web-Enabled Collaboration

Advantages

- Integrating framework for tools and functions
- Can cut project travel in half with better results*
- More effective use of time
- More frequent, shorter meetings on line. Result: *Better managed projects*.
- Secure: Encrypted links, hidden sites, layered protection
- Tools are Java based, comply with DoD Security



Who are your customers & what do they want?

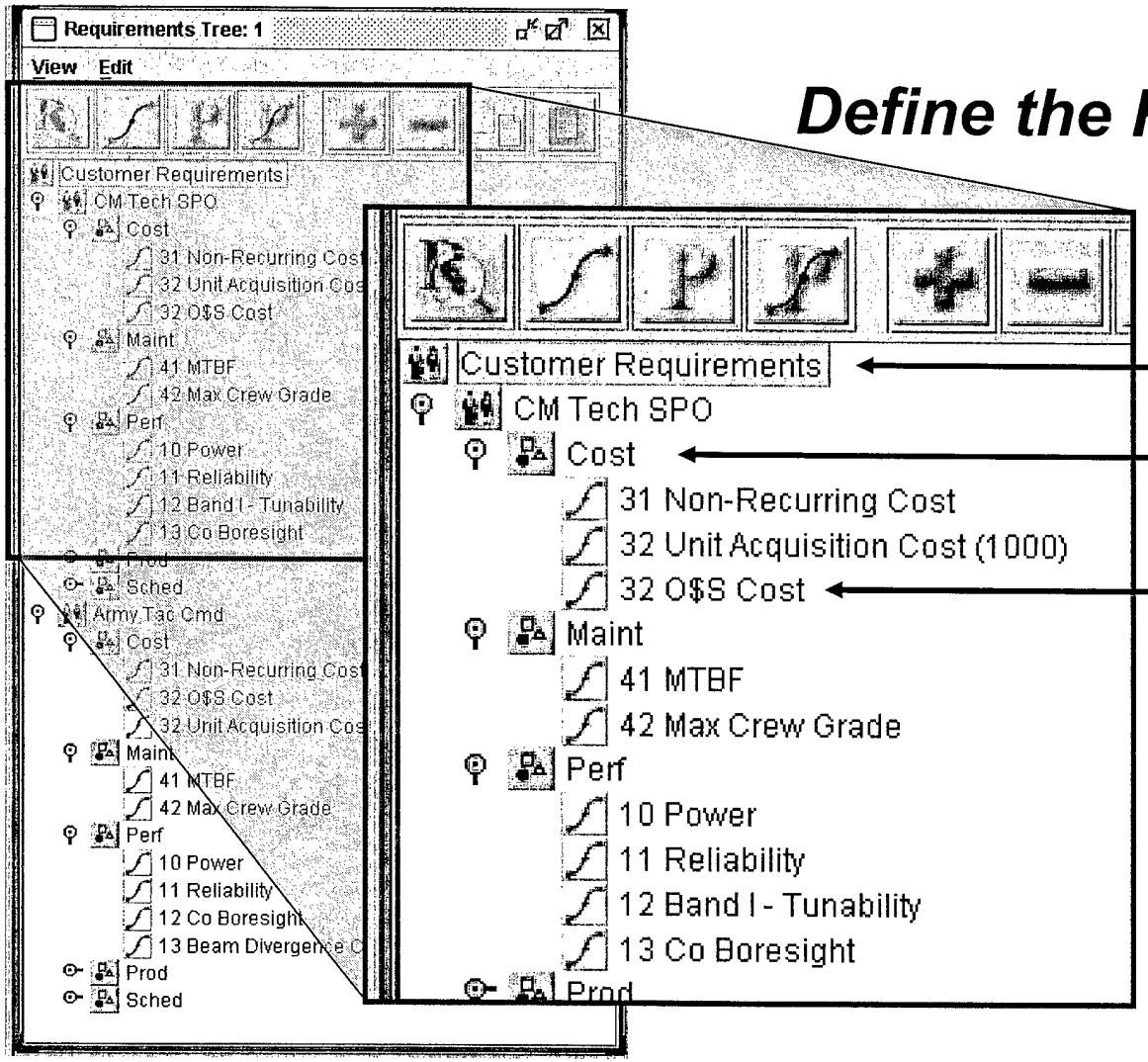
"If you have no clear destination,
any road will get you there."

- - TMATT is your Map to the correct destination - -

Customer Requirements:

1 Identify Customer & Requirements

Define the Requirements



Customers

Types/Categories

Specifics

Identify who is working the problem & key metric requirement categories

Customers include:

- AFSPC
- AFMC
- IHPRPT Propulsion Community
- Others?

Identified Customers' Desires:

OPERABILITY! OPERABILITY! OPERABILITY!:

- **Quick** Deployment & Response (within hours of tasking)
- **Self Sufficient** (operate with limited infrastructure)
- **Operable** (in multi-theater environment)
- **Successfully Project Power**
- **Precise** Engagement
- **Maneuverable**
- **Global Reach**
- **Sustainable**
- **Affordable**
- **Survivable**
- **Reliable**
- **Work**

Where are we in the TMATT Process?

(Requirements Identification Example)

GUIDE	TOP TIER REQUIREMENT	2nd TIER REQUIREMENT	3rd TIER REQUIREMENT
Defense Planning Guidance (DPG) Fiscal Years 2004-2009			
	- Priorities of long-range precision strike. - Evolution of systems to overcome anti-access technologies and tactics.	Respond anywhere on the globe, deploy quickly, across great distances to supplement forward-stationed and deploying US forces Project power even when the US has no permanent military presence or limited infrastructure in the region	*{==> consider basing infrastructure; ground support equipment C4ISR...}*
2001 Quadrennial Defense Review (QDR)			
	- Evolve the ability to act quickly and win decisively: - Requiring "forces with capabilities that provide the President with a wider range of military options to discourage aggression or any form of coercion."	Respond to events that occur with little or no warning	Precision Maneuver at fixed & mobile targets Rapid deployable Sustainable
Nuclear Posture Review			
	Prompt Global Strike (PGS)		
Joint Vision 2020			
	Full spectrum dominance by applying Sevices' core competencies of global attack, information superiority, precision engagement, and maneuver.	DRAFT	
National Military Strategy			
	Rapid crisis response	Restricted forward basing & undesired collateral damage	
Global Assessment 2020 by the Defense Intelligence Agency			
	Progression toward 2020 will be characterized by turmoil ... less cohesive & sustainable alliances... *{==> self sufficiency}*		
Air Force Strategic Plan			
	Establishes as a Critical Future Capability, the need to, "Create desired effects within hours of tasking, anywhere on the globe, including locations deep within an adversary's territory."		
Mission Need Statement AFSPC 002-01, Prompt Global Strike (ACAT I) draft			
	PGS (Prompt Global Strike) to: - Project power, rapid operations, successful operations. - PGS with joint forces *{==> interoperability}* - *operate* in single or multi-theater environment *{==> limited infrastructure & resources}*	MISSION & THREAT ANALYSIS: 1) improved responsiveness & maneuver 2) improved employment flexibility 3) improved reliability & accuracy 4) link to ISR (intelligence, surveillance & reconnaissance) support 5) survivable (against defense, weather, seas and space) 6) affordable (life cycle cost in the system design) 7) robust in multi-theater environment.	..."respond globally in hours to minutes vs weeks to days with precision effects and minimal collateral damage..." MOOTW (Mil Ops Other than Tar) CBRN (WMDs)
	Supplement forward-stationed & deploying US forces ... even striking in advance *{==> low observable/stealth}*	CONSTRAINTS: Logistics (infrastructure); C4ISR interfaces; Oper Environ ...Legal ...Manpower (min maint/support/security)	
	4.1: development/adaptation of a ... missile	SOV: exoatmospheric reusable launch vehicle or space plane...; ELV ...Air Launched Global Strike System; Space-based Platform ...	

Where are we in the TMATT Process?

(Requirements Identification Example)

AF 120 Day Impact Study

Inputs: Prioritized AF parameters for assessment

OPERABILITY

1. Responsiveness (call-up time, launch vehicle turnaround time & sortie capacity) (hrs)
   Call up time (unmated to off-the-pad configuration mission capable state): 8 - 48 hrs
   LV Turnaround time (prepare LV and ground systems from end of previous mission to start of next): 8 - 96 hrs
   Sortie Capacity (# sorties [LV w/payload] successfully launched w/I a specified time): 0.1/dy sust; 3/dy/wk surge.
2. Payload weight to LEO (lbs)
3. Launch & Landing Availability (of vehicle & infrastructure tolerance to weather)
4. Inland basing/overflight restrictions
5. Blue suit operations/maintenance (junior enlisted, min oversight, nominal base infrastruc
   Worked by junior enlisted & officers, nominal base infrastructure)
   Aircraft-like operations & maintenance

Impact Assessment: Measuring rod (rough prioritized parameters to determine impacts against

COST:

1. Annual Operations Cost
2. Technology level / impact (delta TRL)
3. First Unit Cost
4. DDTE (total design, development, test & evaluation) Cost

SCHEDULE:

5. Design / redesign Schedule

PERFORMANCE & SAFETY:

6. Vehicle dry weight
7. Flight Safety
8. Reliability
9. Design Life

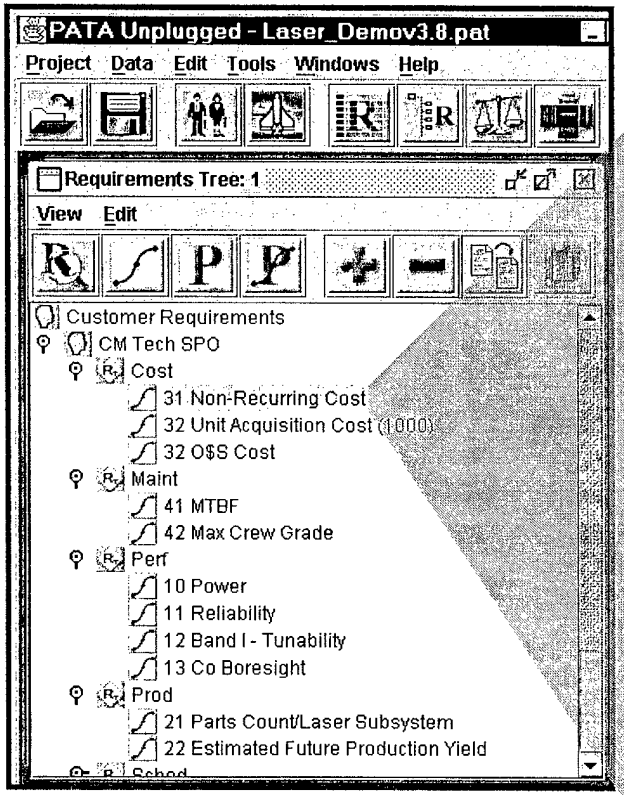
Qualitative impact against other parameters

Alert Hold (time vehicle remains on pad)
Launch from Alert Hold
Re-entry Crossrange
Mission Duration (time vehicle remains on orbit)
Runway
Payload Volume
Maintenance Work-hours/sortie

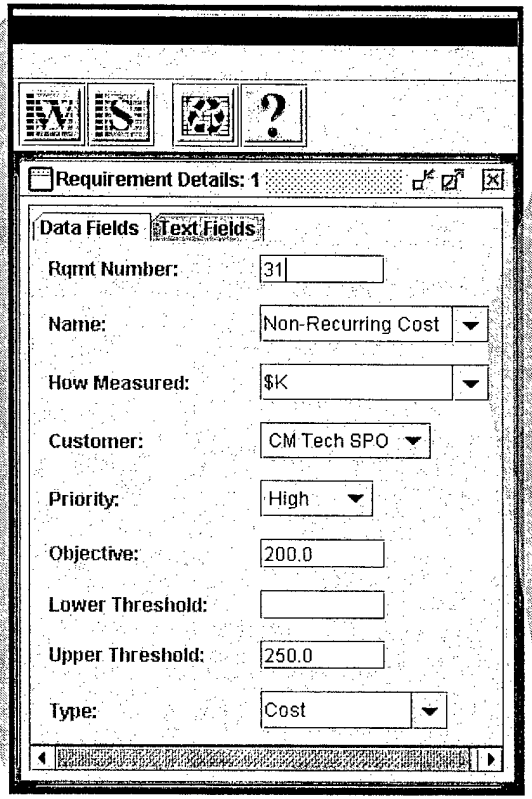
How Will We Know When We've Got It?

2 Establish S&T Exit Criteria

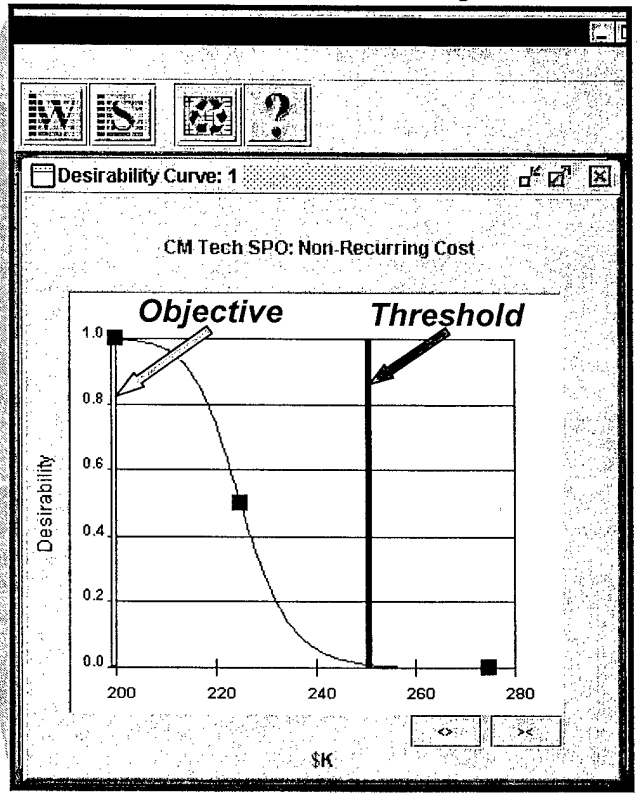
1. Define the Requirement



2. Decide How to Measure It



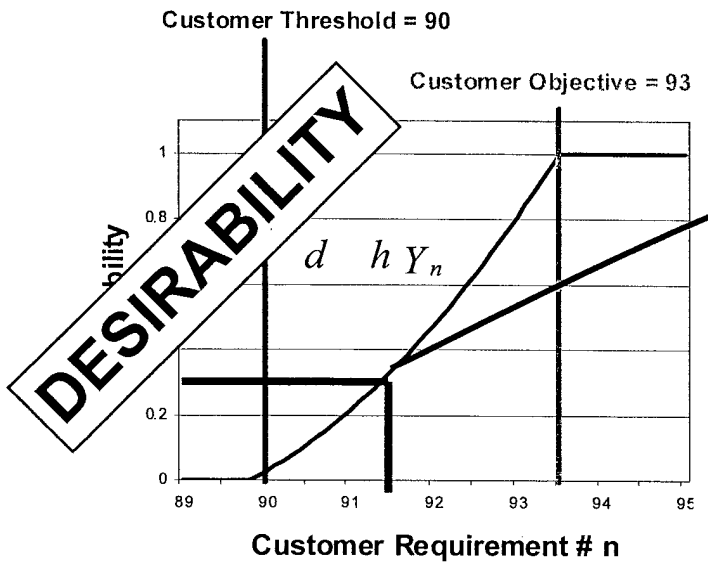
3. Draw Its Desirability Curve



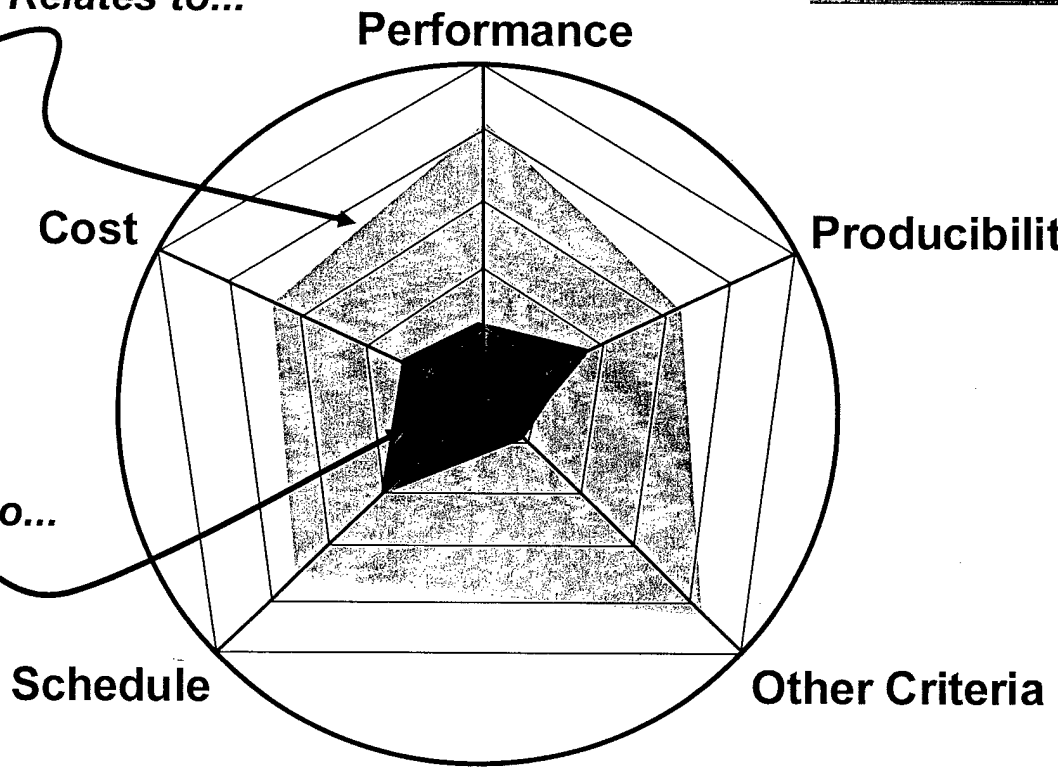
Make Metric Requirements Quantifiable & Measurable

Combining Desirability & Risk

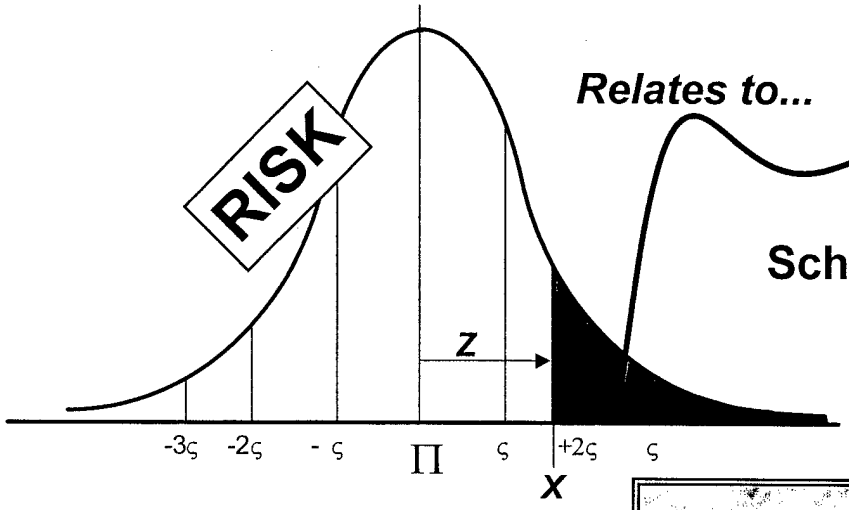
4 Perform Value Analysis



Relates to...



Relates to...



Balance & Analyze Extent of Desirability and Risk

TMATT

(Transformation Management for Accelerated Technology Transition)

Contribution to the

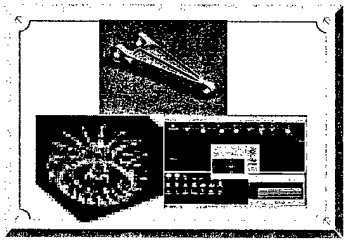
Upper Stage Engine Technology (USET) Effort
17 July 2003

Carl E. Ousley Jr.
Propulsion Directorate
Air Force Research Laboratory

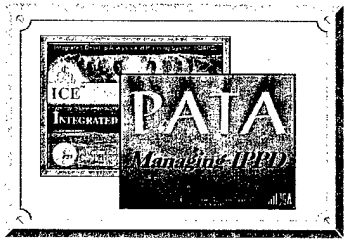
Back-up Charts

Product Affordability & Realization Testbed
Systems & Services

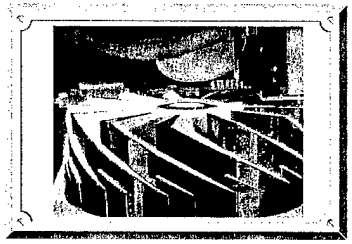
TMATT
Team Support
& Facilitation



3-D Modeling &
Simulation,
CAD/CAM

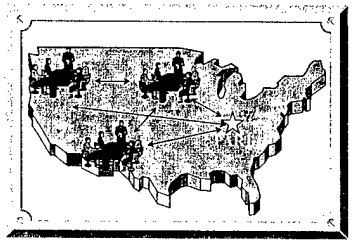


Program Management,
Decision and Cost
Analysis Tools



Rapid Prototyping
Systems & Services

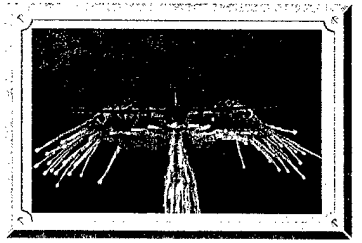
World Wide Web
Connectivity &
Electronic Collaboration



Technology
Demonstrations
& Training

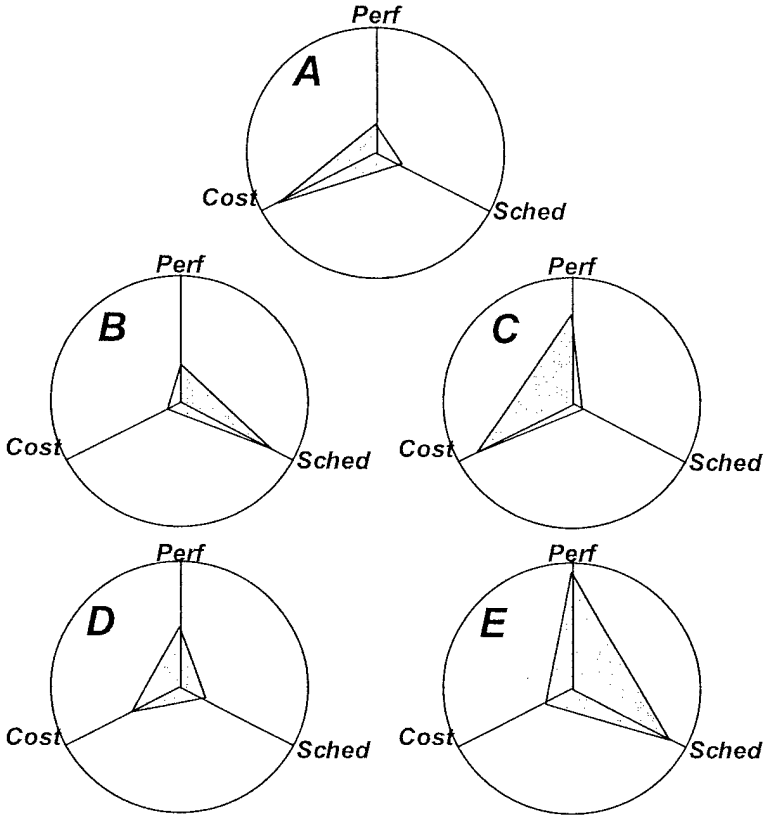
Success
Story Showcase

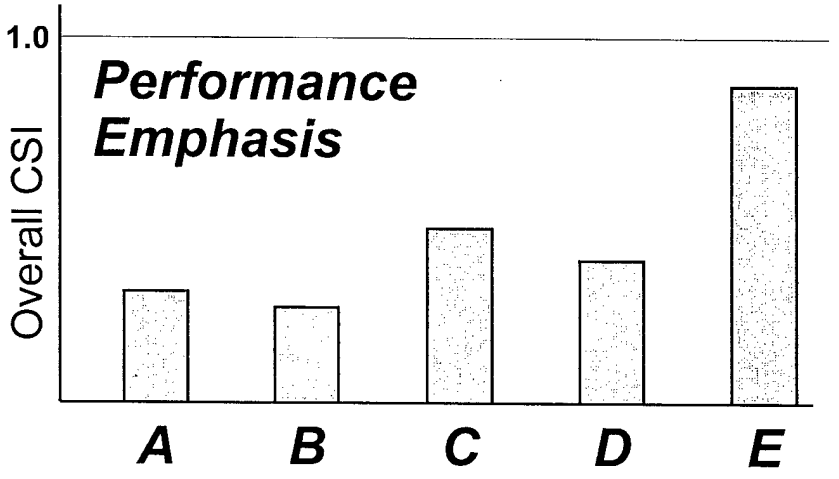
NIIIP
SAVE
IKE/OZ
Systran

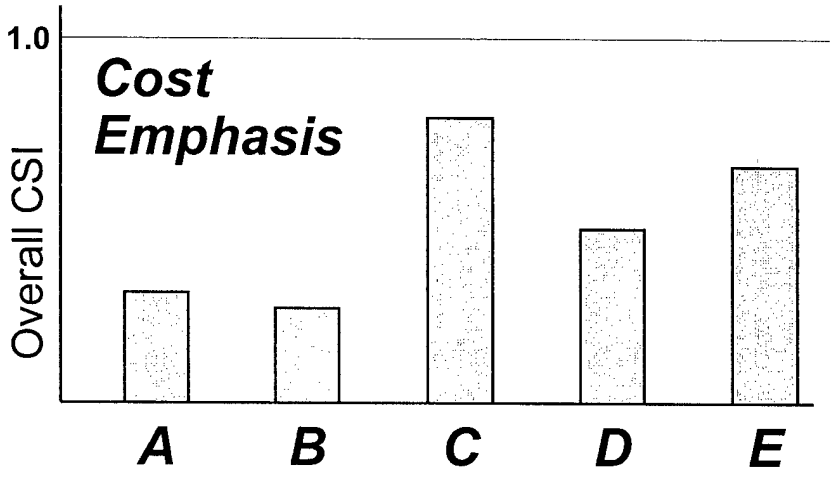


Assist in Identifying
Technology Deficiencies

Combined View: *Weighted Customer Satisfaction Index**



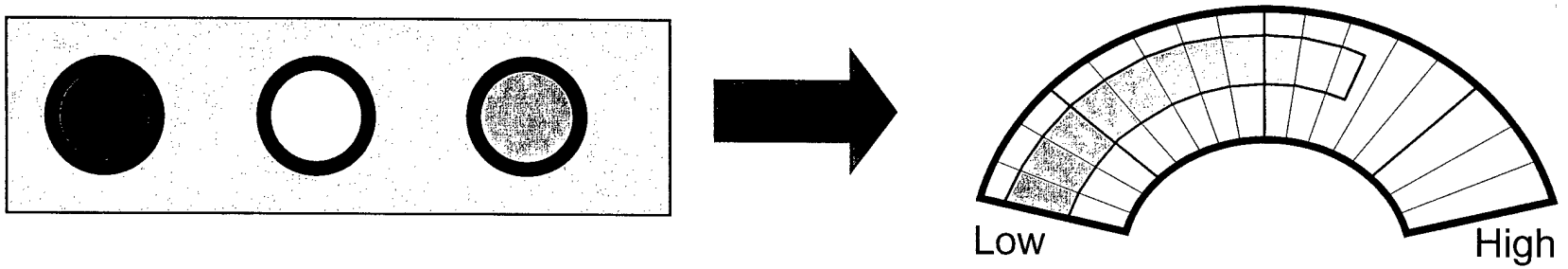




* *From the Perspective of Customer #1*

Considering Risk

Moving from "idiot lights" to gauges

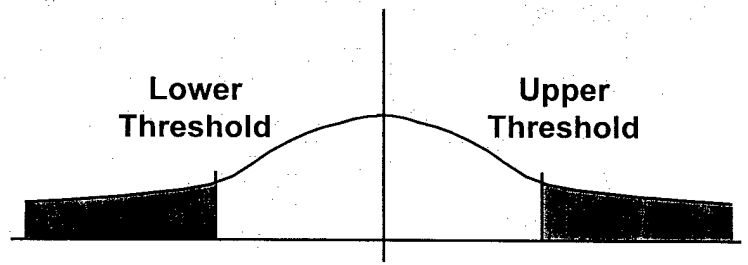


- Evaluate risk from the "bottom up" (requirement level)
- Quantify the likelihood of success/failure
- Roll up the total risk from the risks on each requirement

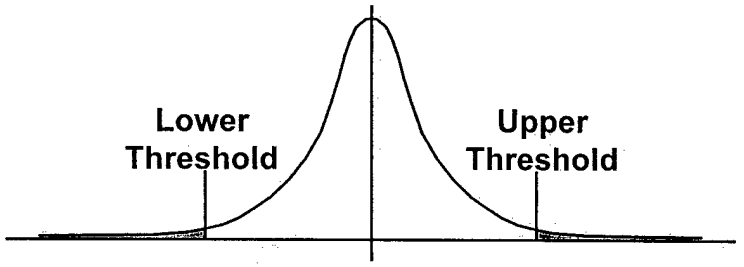
Origins in Variability & Six Sigma

Variability = a measure of the deviation from a target or expected value

As variability ⇩ the Probability of compliance ⇧

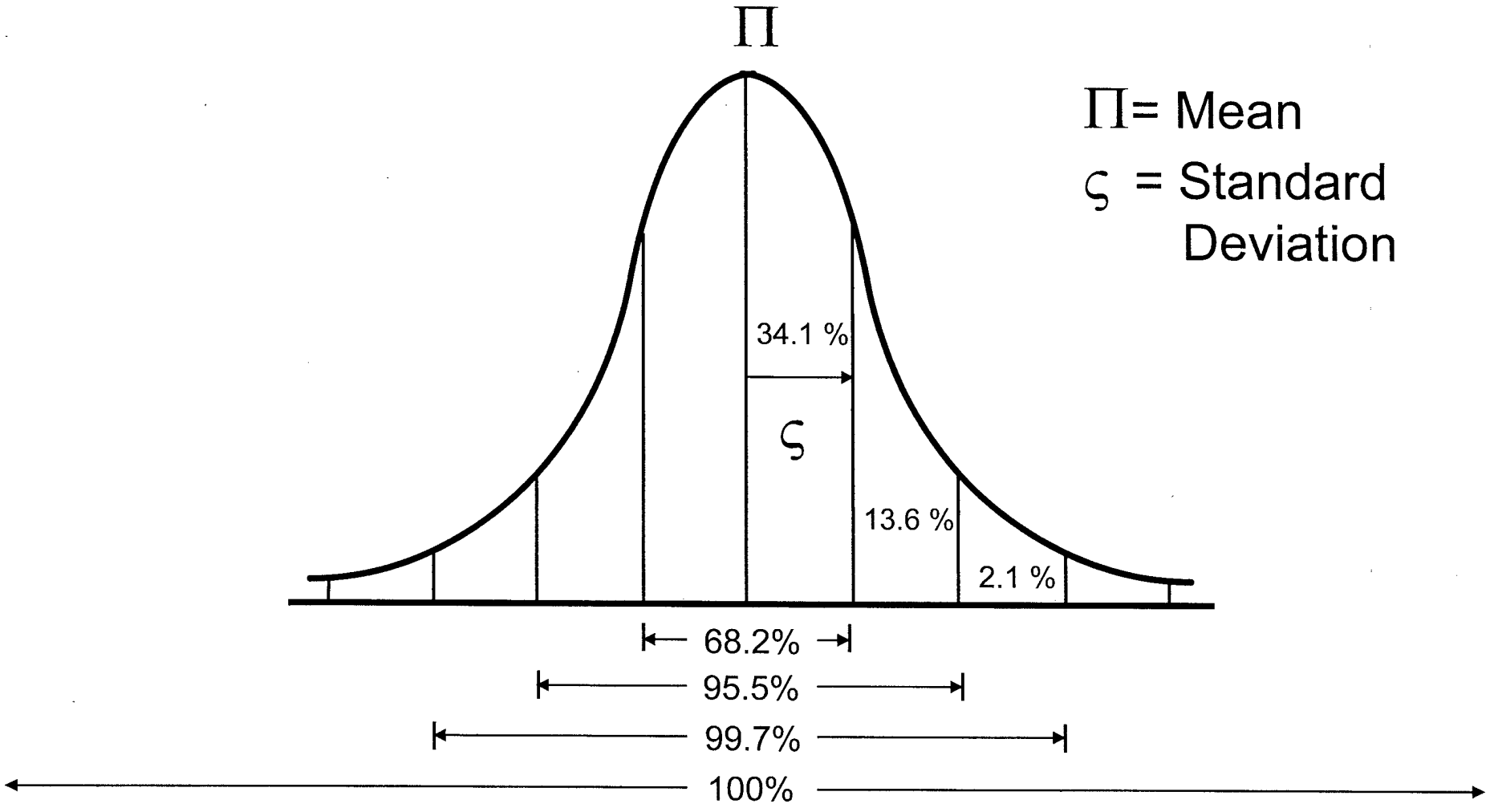


Less Control
More Risk
High Variability

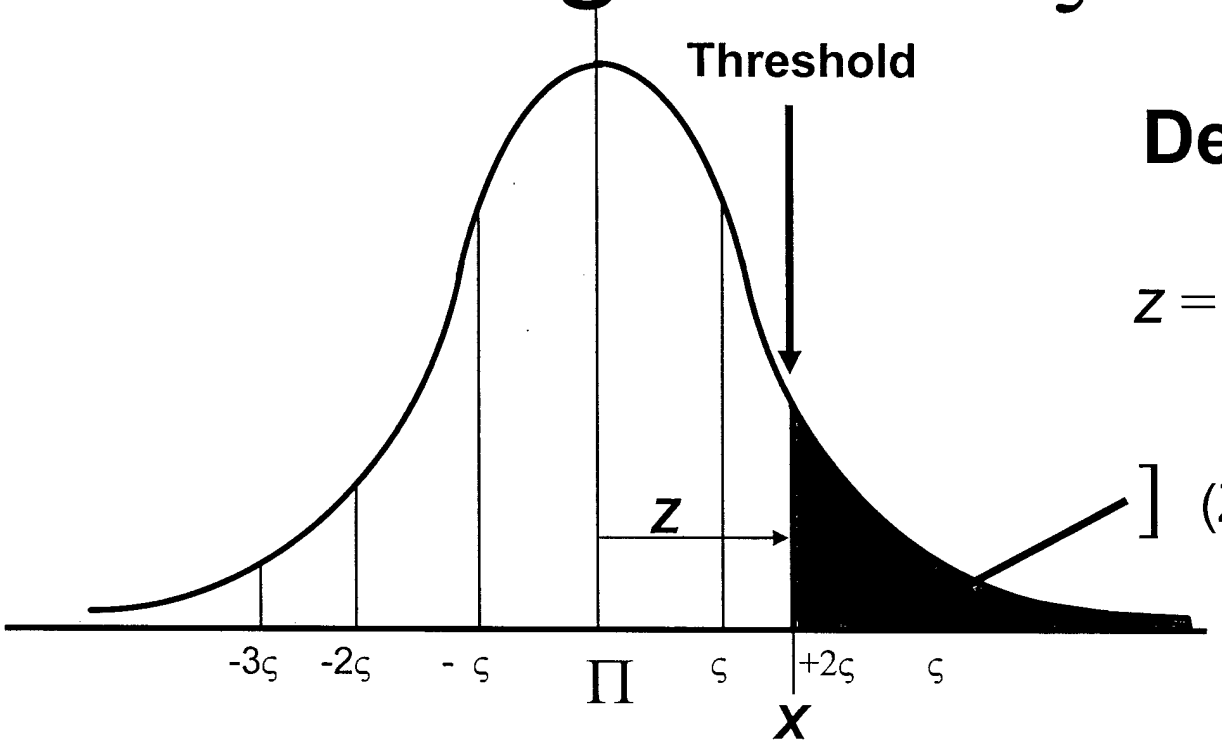


More Control
Less Risk
Low Variability

Area under the Curve



Defining *z* and ζ



Define

$$z = \frac{X - \Pi}{\varsigma}$$

] (Zeta)

What percentage of the area under the curve is to the right of *x*?

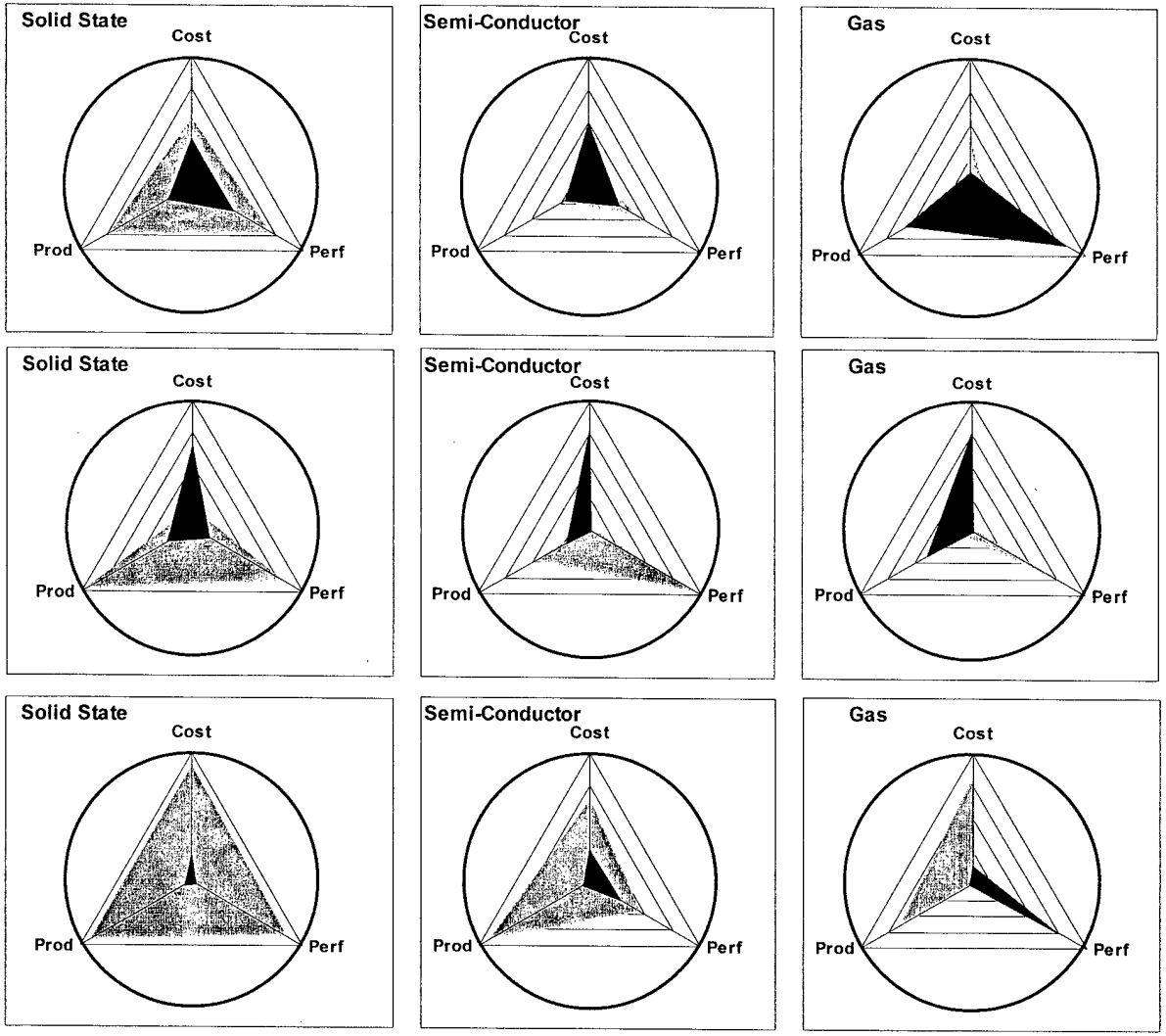
The dark (red) area under the curve that is *outside* the threshold represents the *risk*. It is denoted "]" (Greek letter Zeta).

How Can We Estimate Risk?

One Approach: Expert Estimates

Putting it Together: Affordability Radar Charts

Instructional Example Only



Customer

#1

#2

#3

Basis of Estimate Guidance

- Required in Technical/Management Proposal C.2.(4)
- DO NOT reflect dollar amounts
- Basis of Estimate (BOE)
  - Supports labor hours, materiel, and other direct costs
  - By WBS/Major Task, Subtask (level 3)
  - Include period of performance
  - Provide source of BOE (Mr. Smith, travel company, subcontract bid, etc…)
  - Make sure your BOEs match your task descriptions
  - Explain other types of rates that apply (overhead, admin, fee, etc…)

Basis of Estimate Guidance (Cont'd)

- Basis of Estimate (Cont'd)
  - Historical data shall be identified along with judgmental factors
    - Applicability of historical data shall be explained
    - Judgmental factors shall be defined and justified
      - If it is an engineering estimate then say so
  - Travel BOE shall identify
    - How many people are traveling
    - Where they are going
    - Purpose of trip
    - Associated costs (hotel, rental car, per diem, etc…)

Basis of Estimate Guidance (Cont'd)

- Basis of Estimate (Cont'd)
  - Labor BOE shall identify
    - Explain work to be performed
    - Why the proposed person-loading is
      - sufficient
      - of the proper labor category mix
      - reasonable for each task
    - Explanation of different labor categories
  - Subcontract BOE shall identify
    - Labor hours
    - Prime contractor review of bids for adequacy and reasonableness

Oral Presentation Guidance

- Contracting Officer will notify offeror approx 14 days in advance
- Offerors must use Government provided presentation equipment
- Introduction (15 Min)
  - Include introduction of key personnel and corporate commitment to IHPRPT
  - Not evaluated
- Oral Presentation (180 min; additional 10 min break every 60 min)
  - Address all aspects of the technical/management selection criteria (PRDA Attachment 2)
  - Use your discretion to add, omit, and combine topics
  - Only slides presented will be considered for evaluation
  - No questions may be asked during this time
  - Video tape of session may be obtained

Oral Presentation Guidance (Cont'd)

- Government Caucus (approx 120 min)
  - Formulate clarification questions regarding the oral presentation and written submittals
- Offeror Caucus (30 min)
  - Review questions
  - Develop strategy for addressing questions
- Question and Answer Session (approx 120 min)
  - Intent to resolve all questions
  - Government decides which items are left unresolved
  - Offeror may respond to those items within 5 business days
  - Video tape of session may be obtained